



CHILDREN'S ENVIRONMENTAL HEALTH & PROTECTION ADVISORY COUNCIL

Meeting Minutes

January 19, 2016

House Office Building, Annapolis, MD

CEHPAC MEMBERS: Dr. D. Abney (phone), Del. Angela Angel (staff), V. Carella; Dr. M. Latshaw; Dr. J. Miller; Dr. C. Mitchell; B. Thomas; N. Witherspoon

MEMBERS ABSENT: Dr. D. Bishai; C. Church; Dr. G. Diette; Dr. B. Gitterman; R. Hofstetter; J. Levy; Dr. E. Matsui; A. Mezu; J. Powell; C. Varney-Alvarado

GUESTS: Dr. Jared Duncan – pediatric ophthalmologist; Cindy Eckard – public; Evi Lowman – Maryland PIRG; Rebecca Rehr – MD Environmental Health Network; Theodora Scarato – public; Dr. Xaviour Walker – preventive medicine resident

STAFF: R. Hess-Mutinda, DHMH

Welcome and Introductions

Dr. Mitchell opened the meeting with a welcome and introductions.

Review and Approval of Minutes

A quorum was not present at the meeting to approve the 2015 minutes. Approval of minutes is planned for the March 2016 meeting.

DISCUSSION

School Environmental Health Issues

➤ Update on workgroup review of Wireless in Schools

Dr. Latshaw reviewed the current status of the workgroup. Linda Li, a public health graduate student from the University of Maryland, is compiling a literature review on the topic to share with the workgroup and the Council. A call has been set up with the workgroup to discuss the current status and literature review results. The workgroup will share the findings with the full Council in Spring 2016. V. Carella pointed out that Baltimore City Public Schools are currently creating guidelines for use of laptops and other technology in schools, and suggested that input and advice from the Council would be helpful to the Public School system as they establish these guidelines. **Public Comment:** T. Scarato provided a handout entitled "Wireless and Your Family's Health: Simple Precautions Make Sense."

➤ Public Inquiry Regarding Computer Screens in the Classroom

The Council has been approached by a member of the public concerning the impacts of computer screens in the classroom on students' vision and eye health. **Public Comment:** Ms. Cindy Eckard entered written testimony on this issue, which can be

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found as an attachment to these minutes. Ms. Eckard read the testimony to the Council. Dr. Jared Duncan, a pediatric ophthalmologist/member of public, shared knowledge and perspective regarding the potential effects of computer usage in children, and answered questions from Council members. Dr. Mitchell asked the group to consider both ocular and ergonomic issues that may be associated with computer usage at school, specifically for children. Other Council members suggested the importance of more recess and use of specific technology to reduce risks. Ms. Eckard concluded the discussion by stating she has approached Del. King to sponsor legislation to address these issues.

➤ **Update to Green Cleaning in Schools**

V. Carella shared updates regarding green cleaning in schools that included: 1) the Maryland Environmental Health Network will host the 2nd Roundtable Discussion with school facility staff on appropriate use of green cleaning products and 2) Ms. Carella suggested that the Council check in with Maryland State Department of Education on the status of implementation of the green cleaning in schools law; Ms. Carella offered to draft the letter.

Update on Synthetic Turf Fields

Dr. Mitchell has almost completed the literature review of currently available studies and information. The review will be shared with the Council as soon as it is complete. Both the University of Maryland and Johns Hopkins University have responded to the inquiry letter regarding the possibility of a study on synthetic turf fields. The Universities are interested in further discussions regarding this type of study.

2016 Legislative Session and Emerging Issues

Members discussed the best way to address proposed legislation during the legislative session that complies with the Open Meetings Law and other stipulations of public meetings. Ms. Witherspoon suggested picking specific items of the Council's interest and providing high level guidance. Dr. Mitchell suggested this type of guidance could be articulated through a policy statement from the Council that could be shared with legislators. N. Witherspoon and V. Carella will draft the policy statement and share with the Council prior to the next meeting, for feedback and discussion during the meeting.

Wrap Up and Next Steps

Ms. Eckard asked about her next steps and what the Council is willing to do regarding computers in classrooms. Dr. Mitchell responded that the Council does not have a timetable regarding the issue but will remain engaged in the discussion and hopes to engage the pediatric ophthalmology community for further discussion.

Next CEHPAC meeting: March 16th @ 9:30am – MD Department of the Environment (1800 Washington Blvd, Baltimore)

January 19, 2016, submitted by Ms. Cindy Eckard, 126 North Lake Drive, Stevensville, Maryland 21666

Thank you, Dr. Mitchell, for the opportunity to address the Children's Health and Environmental Protection Advisory Council. I am here to ask for your support. I have asked for legislation that will enable the Department of Health and Mental Hygiene to develop safety policies for Maryland schools, to protect my son and all the students whose classroom computer use now puts them at risk for permanent eye damage.

It has been upsetting and frustrating to see my 6th grade son glued to a computer many evenings working on his assignments, knowing that he spent most of his day in front of a monitor at school too. I began to worry about his vision, his posture, and his overall well-being.

In late November, when we met for parent-teacher conferences, I asked my son's teachers to reduce his screen time to protect his eyes. I followed up by emailing the teachers articles that explained the dangers: increased nearsightedness, blurred vision, dry eyes and potentially, even blindness. Although none of his teachers disagreed when I said the kids seemed to be online all day, I got only silence from them on the subject of my son's screen time, and an email from the superintendent letting me know there is no school policy regarding this issue.

I called the Maryland State Department of Education. I assumed their administration would surely have performed basic due diligence. After all, their stated goal is to see that Maryland students are all equipped with laptops. So I was confident that they would have already investigated the potential safety hazards of the equipment they are actively promoting.

I was shocked to learn there are no safety policies at the state level, either. As I sit here this morning, many weeks after this journey began, I still can't believe that no one addressed the health hazards of these laptops *before* they distributed them to so many students, and then required daily use. After years of meetings, conferences, committees, councils and lengthy reports about technology,* these educators most certainly had to know that these devices pose a health risk to our children.

The dangers of computer monitors in the workplace have been known for a very long time. The Occupational Safety and Health Administration has had safety guidelines for computer use since 1997, when OSHA warned office workers of the health hazards. OSHA lists "Visual Problems, Fatigue and Musculoskeletal Problems" as top concerns. To mitigate these health issues, OSHA's guidelines limit the time that workers spend on a computer. Their guidelines also describe optimal lighting, glare, and contrast settings; identify the correct angle for a monitor, and illustrate the correct posture for users -- all important considerations to reduce the known health risks.

Schools are now requiring students to face the same health risks as office workers, but without any of the same precautions. Office workers are warned of the risks, but students and their families are not. Workers have a process in place to complain if an employer compels them to use a computer contrary to the guidelines. There is no process for students or their families. It's an educational Catch 22.

Regardless of how much time the schools require our kids to use computers, the school administration can always say that no rules are being broken. Because there are no rules.

Anyone could have researched this growing threat to our children's health. Thousands of references emerge when the phrase "computer vision syndrome" or "digital eye disease" is searched online. The National Institutes of Health, The Vision Council, The University of Pennsylvania, The American Academy of Pediatrics, hundreds of doctors and scientists here and around the world offer reference material that explains the dangers of these monitors and offers guidelines to avoid eye damage.

In just the past few weeks, *The Washington Post*, ABC News and *The Chicago Tribune*, have all warned about the dangers of computer monitors with special attention being paid to children's eyes, their sleep patterns, and the hazards these devices specifically pose to children's overall health.

The warnings are alarming. Children blink 66 percent less often when using a computer, so they truly are staring at these monitors. The screens emit a special kind of light called blue light, which can damage their eyes and over time, can lead to blindness. A child's eye can't protect itself from this damaging light in the way an adult eye can, because the younger eye hasn't developed the necessary pigment yet. Children are therefore at a special risk. According to last week's *Washington Post* article, this blue light "reaches far deeper into the eye than other kinds of light and can cause effects that are cumulative."

Dr. Geoffrey Goodfellow is an Associate Professor at the Illinois College of Optometry who was interviewed by the *Chicago Tribune* earlier this month. He wrote this to me last week: "It is clear that so much screen time can be taxing on our eyes and vision, especially for children. This doesn't include all of the other research that links excessive screen time to attention problems, sleep disturbances, and obesity. The American Academy of Pediatrics has developed screen time guidelines for just these reasons." He continues, "I applaud your request to have your legislators study the issue and determine a balanced solution to protecting the citizens of Maryland."

Now that we know children are at a significantly greater risk than adults for eye damage, doctors are the appropriate professionals to craft safety guidelines for the classrooms, because this is a medical threat. Because children are not just small adults, they need special protection that only experts in children's health can provide. Those medically approved safety guidelines can then be implemented by teachers and taught to this new generation of students. Ongoing monitoring of the guideline implementation by an independent agency will be necessary. A grievance process for concerned parents should also be established.

I respectfully ask that the members of this Advisory Council encourage enabling legislation that directs the Department of Health and Mental Hygiene to develop policies that will protect our children's vision now. I also hope that Governor Hogan will lend his support, and get this done, during this session. Our children's eyes are being put at risk every day at school; immediate action is needed. Thank you for your time today. Attached to my written testimony are research references for your review; I will make them available by email as well, to expedite additional research.

*Maryland State Board of Education

Maryland Educational Technology Plan for the New Millennium: Anytime, Anywhere:

Technology to Improve Teaching and Learning, 2007-2012; Released in 2007; 40 pages

No mention of safety considerations for children using computers; no reference to children's vision or eyes

Maryland Instructional Technology Advisory Council (MITAC)

Investing in Instructional Technology: Accelerating Educational Reform in Maryland; Released in 2011; 51 pages

No mention of safety considerations for children using computers; no reference to children's vision or eyes

Maryland Society for Educational Technology

Strategic Plan: Vision and Mission: 2013-2014

No mention of safety considerations for children using computers; no reference to children's vision or eyes

United States Department of Education

Office of Educational Technology

Future Ready Learning: Reimagining the Role of Technology in Education

2016 National Educational Technology Plan; Released in January, 2016; 106 pages

No mention of safety considerations for children using computers; no reference to children's vision or eyes

ADDITIONAL SUPPORTING RESEARCH

January 11, 2016 The Washington Post: Blue light from tech gadgets and digital eye strain: More than 73 percent of young adults suffer from symptoms

(<https://www.washingtonpost.com/news/to-your-health/wp/2016/01/11/blue-light-from-tech-gadgets-and-digital-eye-strain-more-than-73-percent-of-young-adults-suffer-from-symptoms/>)

January 6, 2016 Chicago Tribune regarding digital eye strain

(<http://www.chicagotribune.com/business/ct-digital-eye-strain-0106-biz-20160105-story.html>).

OSHA has recognized the health risks and regulated the use of computer monitors for office workers since 1997: (<https://www.osha.gov/Publications/osh3092.pdf>)

"Children can experience many of the same symptoms related to computer use as adults. However, **some unique aspects of how children use computers** may make them more susceptible than adults to the development of these problems.": <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2776336/>

Side effects include increased myopia, decreased melatonin, and a greater risk for macular degeneration as a result of blue light emissions from the screens:

<http://www.aoa.org/patients-and-public/caring-for-your-vision/protecting-your-vision/computer-vision-syndrome?sso=y>

https://www.thevisioncouncil.org/sites/default/files/VC_DigitalEyeStrain_Report2015.pdf

https://www.washingtonpost.com/national/health-science/blue-light-from-electronics-disturbs-sleep-especially-for-teenagers/2014/08/29/3edd2726-27a7-11e4-958c-268a320a60ce_story.html

University of Iowa: Computer Vision Syndrome. Computer users blink 66% less often:

<https://www.uihealthcare.org/2column.aspx?id=225650>

CHILDREN and YOUNG ADULTS who use smart phones and tablets are at risk of potential irreversible eye damage because of blue light emissions from digital devices. Serious problems begin to occur with your eyes when too much exposure to blue light is encountered thru the use of LED Devices.

Source: <http://www.wral.com/eye-care-center-kids-bluelight/14543845/>

Excessive screen time is dangerous to children's eyes because digital devices emit short wavelength light that is in the high-energy spectrum. Also known as blue light, this type of light is emitted from cell phones, computer screens, and tablets. Blue light exposure is **especially harmful to children because their eyes are still developing** (Source: WRAL).

The energy from blue light penetrates all the way to the back of the eye and passes through the eye's natural filter. **Adult eyes have protective pigments** that filter some of the harmful wavelengths of blue light, but those pigments are not fully developed in children which leaves them susceptible to eye damage.

Source:

<http://kingstonsurgerycenter.com/news-article/limit-screen-time-to-protect-your-childs-eyes-04282015>